

# **Ecosystem Science and Monitoring Program**

Draft 11/9/99

Since its inception, CALFED has been working to incorporate scientific information and expertise into its ecosystem restoration decision-making process [e.g. Vol. II, the 1997 Science Panel, the Strategic Plan, & this most-recent Interim Science Panel]. Now, there is increasing recognition that an immediate and significant push is needed to ensure that key upcoming decisions can be advised as fully as possible by science-based decision support. The CALFED Science and Monitoring Program is structured to provide funding to support the science and monitoring activities necessary for implementation of the ERP in an adaptive management framework. This program is intended to be fully integrated with CALFED's Comprehensive Monitoring, Assessment and Research Program. The following provides some additional information on some key aspects of the CALFED Science and Monitoring Program.

**Scientific Review and Revision to Strategic Plan and Implementation Plan.** - Annual review and revision to Strategic Plan. Develop framework for implementation of adaptive management. This will involve a review of the CALFED community's decision structure with an eye to points that are critical to an Adaptive Management /Ecosystem-based approach. Recommendations will be developed for the injection of science-based thinking into these key decision points. White papers and reconnaissance-level studies will be completed, with accelerated implementation of their findings. Prefeasibility studies will be conducted on demonstration streams to help develop the adaptive management framework for implementation of specific projects. (\$1.75 million)

**Peer Review of Proposals, Projects, Monitoring Plans and Project Data.** - Provide objective scientific and technical review of Annual Implementation Plans, submitted proposals, project monitoring plans, project data, quarterly and annual report information. This involves work at two levels. Project-specific scientific review would focus on whether the project is of importance from an ecosystem-based perspective, and the degree to which it might inform our understanding of the ecosystem and its workings (e.g.: its information richness). Context review would consider region-wide importance, "This project looks good, but is it in the best place for this type of intervention? Is this kind of project of high-priority for this process or ecological unit?". (\$1.5 million)

**Access to and visualization of scientific information.** - New information is needed of course, but this task would focus on the better use of scientific information and advice that already exists, but is not now being brought to the fore in the decision-making processes. Tasks would include:

- Moving key scientific reports and data into digital form. Improving the availability of digital library services to the nodes of decision making in the CALFED community; giving better access to maps, journal articles, and reports essential to the injection of scientific information.
- Improved presentation and visualization of the CALFED region's ecosystem and land-use issues. This would involve use of advanced technology in GIS, projection, and data

visualization. The information could be used to enhance information transfer in briefings, workshops for science panels and project review teams, and for public presentations. It also would be a workbench for the synthesis of information for deployment over the web. CALFED's use of the web would be intensified, with greater use of new off-the-shelf technology in web browsing, web-conferencing, data broadcasting, web-GIS, and web-database management. The focus would be on use of the web for communication of scientific information.

- Initiate contract for the development of project specific web pages for all currently funded projects, which provide general project information, summary data results and fiscal information. Also provide links to other relevant web sites such as TERA and to raw data through the centralized data management system.
- Expand and further develop regional quarterly reporting and comprehensive annual reporting of project results (\$0.65 million)

**Ecosystem Science Conference and other Workshops** - The ERP needs to develop a formalized mechanism for sharing of scientific information both with peer review scientists and with the public and CALFED decision makers. This funding would also contribute to regional interactive workshops which allow information sharing with local communities and governments. (\$0.25 million)

**Data management.** - The focus would be on the creation of a central data storehouse, further rationalization of CALFED data, and on nurturing data development and management at regional nodes, and among CALFED partners. (\$1.0 million)

**Supplemental monitoring of existing projects.** - Most proposals contain some data collection and monitoring as part of the project proposal. But in many instances, the proponents are not equipped to perform the necessary pre-project evaluation and long-term ecosystem monitoring, or the monitoring is not adequate to address the scientific uncertainties associated with the project. This task would include the development and implementation of standardized monitoring protocols based on project type. Initiation of regional monitoring would also be included under this task. (\$1.75 million)

**Region-wide scientific work.** This involves further development of landscape-level and process-oriented conceptual models as recommended by the Strategic Plan; and further specification of the Ecological Units defined in Vol. II. (\$0.5 million)